

CLASS 56, HARVESTERS**SECTION I - CLASS DEFINITION**

This class includes means for severing crops which grow above the surface of the ground, without disturbing the soil, and means for gathering the same from the field after they are severed. Subject matter relating to cutting crop material lying on the ground without disturbing the soil is also included.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

Cutting implements carried in the hand or by the body and capable of general application are classified in Class 30, Cutlery.

The raking devices in this class are limited to the type that are designed to gather hay, straw, grass, leaves, or the like. Intermittent loaders, which may travel over the ground and which have forks which gather a load and then swing upwardly to lift the same and dump it, are classified in Class 414, Material or Article Handling.

Beet crop harvesters, such as beet harvesters, potato-diggers, and the like, and means for uprooting and recovering stalks or weeds are classified in Class 171, Unearthing Plants or Buried Objects.

Stone gatherers which gather stones by impelling the above ground portions of partially buried stones are found in Class 171, Unearthing Plants or Buried Objects, subclasses 63+. See the Notes to this subclass for other types of gatherers.

Machines for scooping up manure are classified in Class 37, Excavating, subclasses 118+.

- (1) Note. See (19) Note of the class definition of Class 30, Cutlery.
- (2) Note. See (5) Note of the class definition of Class 294, Handling: Hand and Hoist-Line Implements.

SUBCLASSES

- 1 This subclass is indented under the class definition. Inventions falling and not classifiable elsewhere.

- 2 Machines which by removing, interchanging, or shifting certain parts may be converted from one type of harvester into another.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

400.04+, for convertible hand rakes.

- 3 Having means to cut grain and convey it away from the point where it falls, but capable of being converted into a mower by detachment of the conveying means.

- 4 The conveying means comprising a rake oscillating or revolving about a vertical axis.

- 5 Having means to cut grain and catch it as it falls, but capable of being converted into a mower by the detachment of the catcher.

- 6 This subclass is indented under the class definition. Devices comprising two or more similar cutting units each comprising a cutter and frame or mounting means, which units are connected together and operated as a single machine.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

13.6+, for a harvester having plural, motor-driven cutter-units.

234+, for hedge or plant row trimmers having a plurality of cutters.

238, for cutting devices which make successive cuts at different heights.

251, for rotating cutting reels having an auxiliary cutter.

- 7 Each of the constituent machines having cutting-knives carried on the periphery of a rotating reel, generally adapted for mowing lawns.

- 8 Devices used for cutting or removing marine-plant growth.

- 9 Having a conveyor to convey the growth to the desired point.

- 10.1 This subclass is indented under the class definition. Machine wherein a harvester or an operating assemblage thereof derives all or part of its motive power from a motor or engine, or

from a vehicle that is driven by a motor or engine.

- (1) Note. For this and indented subclasses, the terms “motor” and “vehicle” may be considered in their broadest aspects. Among terms acceptable for, or equivalent to, “motor” are: “power take-off”, “engine”, “hydraulic ram”, “drive means” (i.e., where the specification discloses a motor), these being only examples of such terms. Among terms acceptable for, or equivalent to, “vehicle” are such exemplary term as: “self-propelled machine”, “engine-driven wheeled frame”, “tractor”, “mobile frame” (i.e., where the specification discloses that the mobility of the frame is derived from a motor).
- (2) Note. The term “operating assemblage” refers to that portion of a harvester that causes a change in the condition or the location of the material operated upon. Such material may be vegetation (i.e., that which is growing from the ground) or crop (i.e., that which has been separated from the ground by a harvester unit). The change in condition may be effected by such exemplary assemblages as a cutting unit, a (corn) snapping unit, a (cotton) picking unit, a (wheat) threshing unit, and the change in location may be effected by such exemplary assemblages as a gathering unit (i.e., that which directs vegetation to a cutter or picker) or a conveyor unit (i.e., that which moves crop from one location to another).

SEE OR SEARCH THIS CLASS, SUBCLASS:

328, for a motor-operated fruit and nut gatherer.

SEE OR SEARCH CLASS:

30, Cutlery, subclass 180, 206, 210, 216, and 264 for motor operated cutlery.
 172, Earth Working, subclasses 35+, for an earth working tool driven by a motor.
 173, Tool Driving or Impacting, appropriate subclass for subject matter

directed to driving or impacting a tool, and particularly subclasses 184+ for tool driving or impacting means mounted on a vehicle.

180, Motor Vehicles, subclasses 14.1+ for a train of two or more vehicles, at least one of them being a motor vehicle; and subclasses 53.1+ for a motor vehicle provided with means for facilitating the use of its motor for supplying power to drive another machine (e.g., power take-off).

10.2 This subclass is indented under subclass 10.1. Machine wherein the harvester includes means for: (a) sensing a characteristic of the harvester or a characteristic that is external to the harvester but related to its use, and (b) performing an action by at least one of the operating assemblages thereof, which action is a direct result of such sensing.

SEE OR SEARCH CLASS:

901, Robots, subcollection 9 for a sensor on the end of a robot arm for controlling arm movement and subcollection 32 for sensor operated gripping jaws on a robot arm.

10.3 This subclass is indented under subclass 10.2. Machine wherein the action results from a load requirement that is greater than the motor can safely deliver, and the action is effected by permitting the motor to operate without transmitting its power to the load.

(1) Note. The action may be effected by use of a frangible connection in the drive train between the motor and the load or by a disconnectable or slippable clutch in such drive train.

SEE OR SEARCH THIS CLASS, SUBCLASS:

10.8+, for a harvester wherein a clutch or other equivalent means in the drive train is controlled at the will of an operator.
 12.7, for a harvester wherein the cutting blade thereof is resiliently or pivotally mounted on its drive shaft.

- 10.4** This subclass is indented under subclass 10.2. Machine wherein the action results from the sensing of an obstacle in the path of movement of a cutting assemblage on the harvester, and the action is effected by a means for withdrawing said assemblage from its normal cutting position in said path.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 15.3, for a harvester having a drive train that permits a harvester to be repositioned in a breakaway action.
- 15.7, for a harvester having a joint between a tractor and a cutting assemblage that permits the assemblage to breakaway.
- 10.5** This subclass is indented under subclass 10.1. Machine wherein the operation of the motor or engine is regulated by the occurrence of an action that cannot be predicted.
- (1) Note. This subclass provides for a lawn mower having an electric motor and a switch whereby current to the motor is turned on or off at the will of the operator, or having a gasoline motor and an auxiliary starter or a switch to cut off the ignition current of the engine at the will of the operator.
- 10.6** This subclass is indented under subclass 10.1. Machine provided with two or more motors, engines or other sources of energy.
- (1) Note. For this and indented subclasses, the power is that which is applied to any mechanism of the harvester. Therefore, although in this subclass (10.6) plural cutting assemblages are disclosed, each assemblage driven by its own motor, the indented subclass (10.7) provides for a harvester wherein an operating assemblage is powered by one motor, and operating assemblage is repositioned relative to the harvester by a second motor, and the harvester is moved over the ground by a third motor (or any combination of such motor-moved devices), even though all such motors are supplied with energy from a common source of energy.
- 10.7** This subclass is indented under subclass 10.6. Machine wherein one of the motors drives one mechanism of the harvester and another of the motors drives a mechanism having a purpose different from that of the first-mentioned portion.
- (1) Note. For examples of types of mechanism found in this subclass, see (1) Note to subclass 10.6.
- 10.8** This subclass is indented under subclass 10.1. Machine provided with means for connecting or disconnecting or regulating the action of one or more mechanisms of the harvester or the vehicle relative to its motor, at the will of an operator.
- (1) Note. The term “mechanism” includes (a) those parts of an operating assemblage that move relative to one another or to their supporting structure for the purpose of performing a harvesting function, (b) those parts of a harvester-supporting structure that move relative to the harvester or its vehicle for the purpose of adjusting the structure relative to the harvester or its vehicle, and (c) those parts of a vehicle that move relative to the vehicle or the ground for the purpose of transiting the vehicle over the ground.
- (2) Note. In this and indented subclasses a foot-actuated pedal is considered to be as “manual” as a hand-actuated lever.
- 10.9** This subclass is indented under subclass 10.8. Machine wherein the motor is actuated by force applied via a liquid or gaseous medium, and wherein the motor action is regulated by a device that directs the flow of said medium.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 11.9, for a harvester provided with a fluid-pressure motor and a conventional or not significant valve therefor.
- 11.1** This subclass is indented under subclass 10.8. Machine wherein the means causes a change in the proportion of motor movement relative to mechanism movement.

- 11.2** This subclass is indented under subclass 10.8. Machine wherein the means causes a change in the direction of movement of the mechanism from one direction to an opposite direction.
- 11.3** This subclass is indented under subclass 10.8. Machine wherein the means includes a device for stopping motion of the motor or the mechanism and a device for connecting the motor to, and disconnecting it from, the mechanism.
- SEE OR SEARCH CLASS:
192, Clutches and Power-Stop Control, subclasses 12+ for a clutch and brake subcombination, per se.
- 11.4** This subclass is indented under subclass 10.8. Machine wherein the means includes two or more mechanisms and a corresponding number of series of connected parts through which motion is transmitted from a motor to said mechanisms, each of which series is provided with a device for connecting the motor to and disconnecting it from the mechanism.
- (1) Note. This and the indented subclasses provide for a harvester wherein, for example, it is desired to disconnect the cutter unit thereof while continuing drive to the transit wheels thereof from the motor.
- 11.5** This subclass is indented under subclass 11.4. Machine wherein each series includes a clutch-assembly.
- (1) Note. A clutch-assembly comprises all the parts that cooperate together to (a) connect a rotating "input" shaft (or a pulley, drum, flywheel, gear or other equivalent torque-transmitting member) to a rotatable "output" shaft (or hub, pulley, gear or other equivalent torque-transmitting member) that is coaxial with and driven by the input shaft, or (b) disconnect said shafts from rotational relationship, either action being performed at the will of the user of the clutch-assembly.
- 11.6** This subclass is indented under subclass 10.8. Machine wherein the means includes an endless band trained around pulleys on the motor and the mechanism, and wherein the connection is made by tightening the band into close engagement with the pulleys.
- 11.7** This subclass is indented under subclass 10.8. Machine wherein the means includes a clutch-assembly.
- (1) Note. The term "clutch-assembly" is defined in (1) Note to the definition of subclass 11.5 above.
- 11.8** This subclass is indented under subclass 11.7. Machine wherein the clutch-assembly connects and disconnects either the cutting unit or the driven ground-engaging wheels of the vehicle relative to the motor or engine.
- 11.9** This subclass is indented under subclass 10.1. Machine wherein the motor is actuated by force applied via a liquid or gaseous medium, or wherein the motor is actuated by a source of potential power.
- (1) Note. The most common source of stored-energy in a harvester of this subclass is an electric battery carried on the harvester to operate the electric motor thereof. However, a spring-operated or a weight-operated motor would also be proper for this subclass.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
10.9, for a harvester provided with a fluid-pressure motor and a valve to control the operation thereof.
- 12.1** This subclass is indented under subclass 10.1. Machine provided with means for restoring a cutting blade or a vegetation-gathering member to its original or operative state of being.
- (1) Note. This subclass provided for a harvester having means for sharpening a cutting blade or cleaning a cutting blade or picker member (e.g., a cotton-gathering spindle), or moistening such a picker member to remove the wisps of cotton not picked up by a cotton "doffer". The cleaning means is in addition to that means which strips the bulk of the cotton, or other crop, from the gathering members.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

250, for a cutting-reel and a sharpening means.

12.2 This subclass is indented under subclass 10.1. Machine wherein the power source emits thermal radiation or gaseous by-products therefrom, and provided with means for utilizing such emissions during the harvesting operation.

(1) Note. This subclass provides for a lawn mower wherein the exhaust gas is used to set up the grass to be cut evenly, or to help discharge the cut crop, or for a harvester wherein heat from the engine helps dry the crop.

12.3 This subclass is indented under subclass 10.1. Machine provided with a series of connected parts through which motion is transmitted from the motor to the mechanism, and further provided with means for applying a friction-reducing fluid to said series.

(1) Note. The term “mechanism” is defined in (1) Note to the definition of subclass 10.8.

12.4 This subclass is indented under subclass 10.1. Machine provided with prong members that engage and handle vegetation or crop and further provided with means for causing said members to move with more than one degree of movement.

(1) Note. This subclass provides for a harvester wherein there is a cylinder having projecting fingers, and the fingers move generally radially in and out of the cylinder as the cylinder rotates, or for a harvester wherein prongs of a hay rake revolve with their supporting carriage and an axis parallel to the ground but maintain their orientation so their free ends point constantly toward the ground.

12.5 This subclass is indented under subclass 12.4. Machine, each of said prong members having an axis that extends along its length, and the members all lying in substantially a common plane, wherein each member rotates on its own

axis and all the members move in an endless path lying in said plane.

(1) Note. This subclass provides for a harvester for picking cotton wherein the picking fingers rotate to wind the cotton boll onto the fingers, and are carried on an endless chain that brings the fingers to a position whereat the cotton is stripped from the fingers.

12.6 This subclass is indented under subclass 10.1. Machine provided with a series of connected parts through which motion is transmitted from the motor to the mechanism, wherein said series is mounted so as to be detachable, one part from another, or is mounted so as to prevent high-frequency impulses from being transmitted from one part of the machine to another part thereof.

(1) Note. It is inherent in any series of connected parts that certain of the parts may be disconnected therefrom and reconnected thereto. Therefore, there should be clearly disclosed the features implicit in the title and definition of the subclass.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

10.3, for a harvester having a connection between a motor and a mechanism driven thereby, which connection is capable of slipping under a condition of overload and is, therefore, inherently capable of absorbing vibrations that would otherwise be transmitted from one part of a machine to another part thereof.

10.8+, for a harvester having a clutch or other separable connection between a motor and a mechanism driven thereby, which connection is intended for manual control of the drive train rather than for detachment thereof.

12.7 This subclass is indented under subclass 10.1. Machine provided with a cutting blade that is supported on a driving shaft by a resilient or pivotal connection.

(1) Note. This subclass provides for a harvester wherein the cutting blade thereof is mounted so that it will move or “give”

relative to its driving shaft, thereby reducing the possibility of the blade breaking, or producing a flailing action on the vegetation or crop.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

10.3, for a harvester wherein a drive train includes a frangible or slippable connection therein.

- 12.8** This subclass is indented under subclass 10.1. Machine provided with an operating assemblage comprising means for moving air under pressure or suction, whereby vegetation or crop is moved relative to the harvester under the influence of the moving air.

(1) Note. In this subclass the air-blower cools the motor or engine or provides a force for lifting the harvester out of contact with the ground.

- 12.9** This subclass is indented under subclass 12.8. Machine wherein the air-moving assemblage sucks or directs vegetation (i.e., that which is growing from the ground) to the harvester.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

30+, for a pneumatic cotton-picker.

SEE OR SEARCH CLASS:

406, Conveyors: Fluid Current, for a pneumatic conveyor, per se.

- 13.1** This subclass is indented under subclass 12.9. Machine provided with an air duct between the vegetation and the air-moving assemblage, wherein that end of the air duct opposite the air-moving assemblage is applied to vegetation so as to draw vegetation to the harvester.

- 13.2** This subclass is indented under subclass 13.1. Machine further provided with means mounted on a driving shaft located in the air duct near the vegetation end thereof, which means imparts multitudinous impulses to the vegetation adjacent the air duct whereby to agitate the vegetation and separate one portion from another.

(1) Note. The impulse means usually comprises a rotating shaft having bristles or

loosely-mounted flail elements thereon, but may include any other means that beats the vegetation.

- 13.3** This subclass is indented under subclass 12.8. Machine wherein the air-moving assemblage directs crop (i.e., that which has been separated from the ground by a harvester unit) within or away from the harvester.

SEE OR SEARCH CLASS:

406, Conveyors: Fluid Current, for a pneumatic conveyor, per se.

- 13.4** This subclass is indented under subclass 13.3. Machine provided with a cutting knife actuated by a motor-driven shaft, and wherein a fan of the air-blower assemblage is supported on the same shaft that actuates the knife.

- 13.5** This subclass is indented under subclass 10.1. Machine provided with at least two operating assemblages driven by a motor or engine.

(1) Note. A distinction is made between the driving of harvester components for the purpose of treating or handling vegetation or crop and the driving of harvester components for the purpose of adjusting them relative to one another. For example, a harvester wherein cutting blades are driven and a crop conveyor is driven, or a harvester wherein snapping rolls are driven and husking rolls are driven would be found in this or indented subclasses because in the named instances both units are operating assemblages. However, a harvester wherein cutting blades are driven and a structure that supports those cutting blades or a structure that supports another operating assemblage is repositioned by motor means, or a harvester wherein snapping rolls are driven and the transit wheels that move the harvester over the ground are driven by motor means will be found, for example, in subclasses 14.7+, particularly 15.1+, because the supporting structure and the transit wheels are not considered to be operating assemblages.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

11.4+, for a harvester wherein drive trains to plural operating assemblages are controlled by an operator.

- 13.6** This subclass is indented under subclass 13.5. Machine wherein the operating assemblages are cutting assemblages that act to cut vegetation or crop either in different places or ways or at different times from one another.

(1) Note. This subclass provides for a harvester wherein one cutting assemblage cuts one swath of vegetation and a second cutting assemblage cuts a second, different swath of vegetation.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

6+, for a gang harvester.

60+, for a harvester having a cutter and a stalk chopper.

234+, and 251, for a harvester having plural cutter-units.

- 13.7** This subclass is indented under subclass 13.6. Machine wherein the cutting assemblages act to cut vegetation or crop in different ways or at different times from one another.

(1) Note. This subclass provides for a harvester wherein one cutting assemblage cuts tall grass with a reciprocating sickle cutter and another cutting assemblage cuts short grass with a rotating disk type cutter, or a harvester wherein one cutting assemblage is disconnected from the driving train and the other cutting assemblage connected into the driving train for alternative operation of such cutting assemblages.

SEE OR SEARCH CLASS:

460, Crop Threshing or Separating, sub-classes 123+, for stripping and topping mechanism, per se.

- 13.8** This subclass is indented under subclass 13.7. Machine wherein the cutting assemblages are spaced apart and positioned relative to one another such that the product of (i.e., the mate-

rial cut by) one assemblage is work for (i.e., the material to be cut by) a succeeding assemblage.

- 13.9** This subclass is indented under subclass 13.8. Machine provided with means located in the space separating two cutting assemblages for moving the product of one assemblage to the succeeding assemblage to be work therefor.

- 14.1** This subclass is indented under subclass 13.5. Machine wherein each of at least two of the operating assemblages comprises two generally cylindrical members rotating in opposite angular directions on generally parallel axes and spaced apart a distance sufficient to admit vegetation or crop between the cylindrical peripheries of said members.

(1) Note. The roller-couple described above is called a "snapping unit" if it pulls vegetation (usually corn) from the stalk and called a "husking unit" if it removes the outer husk from an ear of corn.

(2) Note. In some harvesters one axis is common to one roller of a snapping unit and one roller of a husking unit, and another parallel axis is common to the other roller of said snapping unit and the other roller of said husking unit. However, each unit functions without regard to the other, therefore the structure is proper for this subclass.

SEE OR SEARCH CLASS:

460, Crop Threshing or Separating, sub-classes 25+ for husking mechanism, per se.

- 14.2** This subclass is indented under subclass 14.1. Machine further provided with an operating assemblage comprising two devices spaced from one another and having elements thereon for engaging vegetation lying between the devices, the elements of the respective devices moving orbitally in opposite angular directions such that when the elements of the respective devices are closest together they are moving toward one of the roller-couple operating assemblages, thereby to direct the vegetation engaged between the devices to the action of said roller-couple.

- 14.3** This subclass is indented under subclass 13.5. Machine wherein one of the operating assemblages comprises first means for engaging and actively directing vegetation to the action of the harvester and another of the operating assemblages comprises second means for cutting the vegetation directed thereto.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 17.3, for a lawn mower wherein passive means directs vegetation to a cutting assemblage.
- 94, for a harvester including a gatherer and a cutter.
- 14.4** This subclass is indented under subclass 14.3. Machine wherein the first means comprises a device rotatable about an axis that is generally parallel to the ground and having vegetation-engaging elements rotatable therewith about said axis, which device is rotated in an angular direction such that when the elements are closest to the ground they are moving toward the harvester.
- 14.5** This subclass is indented under subclass 13.5. Machine wherein one of the operating units comprises first means for cutting vegetation or crop and another of the operating units comprises second means for moving crop to or from the first means.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 153+, for a harvester including a cutter and a conveyor.
- 14.6** This subclass is indented under subclass 14.5. Machine provided with a third means for dividing one portion of the crop from another portion of the crop.
- (1) Note. In this subclass the term “thresher” is considered as equivalent to a crop-separating unit, and a harvester including a cutter, a conveyor and a thresher is found herein.
- SEE OR SEARCH CLASS:
- 460, Crop Threshing or Separating, appropriate subclasses, for a threshing mechanism, per se.
- 14.7** This subclass is indented under subclass 10.1. Machine provided with a carriage or conveyance that derives its motive power for traveling over the ground from a motor or engine, to which carriage is connected an operating assemblage of a harvester to effect travel of said assemblage over the ground.
- (1) Note. This subclass provides for a self-propelled lawn mower that is guided by a walking attendant or a self-propelled lawn mower that is steered by a riding attendant.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 16.7+, for a lawn mower that is driven for cutting by a motor, but is propelled and guided by a walking attendant.
- 14.8** This subclass is indented under subclass 14.7. Machine wherein the carriage has at least one wheel that is rotated solely by reason of its engagement with the ground as the carriage travels over the ground, and provided with a series of connected parts through which motion is transmitted to the operating assemblage solely from said wheel.
- 14.9** This subclass is indented under subclass 14.7. Machine provided with a structure for supporting the operating assemblage and means for attaching said structure to the carriage, which means allows said structure to be relocated with respect to said carriage.
- 15.1** This subclass is indented under subclass 14.9. Machine further provided with a series of connected parts for transmitting motion from the motor or engine to said structure for the purpose of re-locating said structure with respect to the carriage.
- 15.2** This subclass is indented under subclass 15.1. Machine wherein the structure that is relocated is that which supports the cutting assemblage.
- 15.3** This subclass is indented under subclass 14.9. Machine further provided with a series of connected parts for transmitting motion from the motor or engine to an operating assemblage on said structure, wherein the series of parts may be bent or reoriented relative to one another to

- maintain the motion-transmitting connection between the motor and the assemblage despite the relocation of the structure.
- 15.4** This subclass is indented under subclass 14.9. Machine wherein the structure is provided with one or more ground-engaging wheels that may be turned about a substantially vertical axis.
- (1) Note. This subclass provides for a harvester wherein its propelling vehicle (e.g., tractor) has a set of steering wheels for the tractor and the operating assemblage is supported in a structure that has its own set of steering wheels separate from those of the vehicle.
- 15.5** This subclass is indented under subclass 14.9. Machine wherein the structure is relocated relative to the carriage in a direction that is transverse to the direction of movement of the carriage and parallel to the ground.
- 15.6** This subclass is indented under subclass 14.9. Machine wherein the means may be manipulated by an operator to cause the structure to be detached from the carriage and reattached easily.
- (1) Note. It is inherent in any structure that is attached to a machine that the structure may be detached therefrom and reattached thereto. Therefore, there should be clearly disclosed the features implicit in the title and definition of the subclass.
- 15.7** This subclass is indented under subclass 14.9. Machine wherein the means includes a yieldable portion or includes an attachment permitting movement of the structure in plural directions simultaneously.
- (1) Note. This subclass provides for a harvester wherein vibrations that may be generated in one mechanism of a harvester will be damped so as not to be transmitted to another mechanism of the harvester, or for a harvester wherein an operating assemblage may be pivoted in a vertical plane extending laterally and may also be pivoted in a horizontal plane (e.g., in a “breakaway” cutter).
- SEE OR SEARCH THIS CLASS, SUBCLASS:
10.4, for a harvester having “breakaway” mechanism, wherein retraction of a cutter assemblage is a direct result of the cutter assemblage meeting an obstruction to its movement, and such retraction is permitted by a universal-action hitch.
- 15.8** This subclass is indented under subclass 15.7. Machine wherein the structure is supported by the ground over which it travels, and follows the contours of the ground regardless of irregularities therein.
- 15.9** This subclass is indented under subclass 14.9. Machine wherein the means includes an axle or shaft that is generally parallel to the ground and serves as a hinge on which the structure swivels.
- 16.1** This subclass is indented under subclass 15.9. Machine wherein the operating assemblage includes elongated fingers extending generally in the direction of travel of the harvester, and wherein the attaching means includes an axle or shaft extending generally across said direction of travels, whereby the structure supporting said fingers may swivel in a vertical plane about a lateral axis.
- (1) Note. In use, the harvester of this subclass is driven over ground on which crop (i.e., vegetation that has been cut) is lying while the tines are disposed close to the ground. When a mass of crop has accumulated on the tines, the structure is lifted and the crop transported to another location in the field.
- 16.2** This subclass is indented under subclass 15.9. Machine wherein the axle or shaft lies along the direction of travel of the harvester.
- (1) Note. This subclass provides for a harvester wherein a cutting assemblage extends laterally out from the side of the harvester and folds up about the longitudinal pivot to reduce the lateral dimension of the harvester and facilitate travel thereof along a roadway.

- 16.3** This subclass is indented under subclass 15.9. Machine wherein the means includes a bar operating about a fulcrum and connected to the structure for swiveling said structure about its hinge shaft, which bar has a detent or lock for maintaining the bar and the structure in a desired position.
- 16.4** This subclass is indented under subclass 10.1. Machine wherein the operating assemblage changes the location or the condition of crop (i.e., that which has been separated from the ground by a harvester assemblage).
- SEE OR SEARCH CLASS:
100, Presses, subclasses 1+, for binder applying methods and apparatus, not otherwise classifiable, and not involving gathering of material from the ground, and especially subclass 6 for such apparatus including means to cut or rupture the material into parts.
- 16.5** This subclass is indented under subclass 16.4. Machine wherein the operating assemblage divides one portion of crop from another portion thereof, or divides unwanted material (e.g., debris or trash) from wanted crop.
- 16.6** This subclass is indented under subclass 16.4. Machine provided with a container into which the operating assemblage disposes of the crop.
- 16.7** This subclass is indented under subclass 10.1. Machine provided with a carriage or conveyance having one or more wheels or skids engaging the ground, on which carriage is mounted an operating assemblage of a harvester and a motor or engine for operating said assemblage.
- (1) Note. This and indented subclasses provide for a harvester, usually termed "lawn mower", that is propelled over the ground by a person, but derives its motive power for cutting from a motor.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
11.6, for a lawn mower similar to that found in this (16.7) and indented subclasses, in which lawn mower the drive to a cutter and/or transit wheel is controlled by regulating the tautness of an endless belt trained over driving and driven pulleys.
- 14.7,** for a lawn mower similar to that found in this (16.7) and indented subclasses, in which lawn mower a motor drives both the cutter and the vehicle that supports the cutter.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 42+, for a motor-driven earth working implement guided by a walking attendant.
- 16.8** This subclass is indented under subclass 16.7. Machine provided with means for discharging flowable matter therefrom.
- (1) Note. This subclass provides for a lawn mower having means to spread fertilizer or weed-killer, for example, in addition to its grass-cutting means.
- 16.9** This subclass is indented under subclass 16.7. Machine wherein the motor or engine may drive two or more mechanisms, or may be utilized to drive one mechanism for two or more different purposes.
- (1) Note. This subclass provides for a lawn mower wherein the motor may drive a cutter or a sweeper, or one wherein the motor may drive the cutter as a grass cutter or as a mulcher, these being only exemplary of machines found therein.
- 17.1** This subclass is indented under subclass 16.7. Machine wherein the assemblage is a cutting assemblage, and provided with means for changing the location of said assemblage with respect to the ground over which the harvester travels.
- 17.2** This subclass is indented under subclass 17.1. Machine wherein the ground-engaging portion (e.g., wheel or skid) of the carriage is relocated with respect to its carriage, thereby relocating the cutting assemblage with respect to the ground.
- 17.3** This subclass is indented under subclass 16.7. Machine provided with a passive element mounted on the carriage and located so as to

- deflect or direct vegetation (i.e., that which is to be cut) to the action of a cutting assemblage.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
14.3+, for a harvester wherein moving means directs vegetation to the harvester assemblage.
- 17.4** This subclass is indented under subclass 16.7. Machine provided with means for preventing injury to either the machine or the operator thereof.
- 17.5** This subclass is indented under subclass 16.7. Machine wherein the motor or engine includes an element that is turned thereby about an axis, and the operating assemblage includes a cutting knife mounted on said element for turning therewith.
- 17.6** This subclass is indented under subclass 16.7. Machine wherein the operating assemblage includes a cutting knife that moves to-and-fro in a straight line or an arcuate path, and provided with a series of connected parts that connects the motor or engine to said knife whereby the motor causes the knife to move.
- 27.5** Devices used in harvesting tobacco and not elsewhere classified.
- SEE OR SEARCH CLASS:
414, Material or Article Handling, subclass 26 for devices for stringing tobacco upon hangers or unstringing it therefrom.
- 28** Devices used in harvesting cotton not elsewhere classifiable.
- SEE OR SEARCH CLASS:
19, Textiles: Fiber Preparation, subclasses 80+, for cotton-cleaning mechanism, per se.
280, Land Vehicles, appropriate subclasses for a land vehicle of general utility. Particular attention is directed to subclasses 6.154+ wherein the land vehicle includes means, interposed between the vehicle body, chassis, or frame and the running gear thereof, for appropriately predisposing a load, load carrier, or receptacle portion to accommodate sustained travel upon an expansive inclined surface (e.g., hillside); or subclasses 400+ for an articulated vehicle or a plurality of interconnected vehicles (i.e., vehicle train).
- 383, Flexible Bags, for bags of general utility.
- 29** Having means for beating the cotton from the plant and gathering it when it falls.
- 30** Having means for detaching the cotton from the plant and conveying it to a receptacle, including a pneumatic device.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
12.9+, for a motor-driven pneumatic harvester.
- SEE OR SEARCH CLASS:
406, Conveyors: Fluid Current, for pneumatic conveying means, per se.
- 31** Manually directed to each boll individually.
- 32** The invention being limited to a nozzle having means peculiarly adapted to detach the cotton from the boll.
- 33** Having means for stripping the bolls from the plant.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
126, and 330.
- 34** Including a comb, between the teeth of which the stalks are drawn, while the teeth strip off the bolls.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
114, 115, 127, 128, 129, and 130.
- 35** The comb having motion other than the forward travel of the machine.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
116, 130 and 330.

- 36** Having means to pick the lint from the boll, leaving the hull on the cotton plant.
- 37** Manually directed to each boll individually.
- 38** Having the picking mechanism mounted on an endless belt.
- 39** The entire operating mechanism driven by manual power.
- 40** Including a rotary picking member.
- 41** Comprising long slender members rotating on their longitudinal axes and provided with means to engage the cotton lint and remove it from the plants.
- 42** Having the spindle mounted on an endless belt, by which they are carried to and from a position to engage the cotton on the plants.
- 43** Having a track or guide which engages a cam connected with the spindles in order to guide the spindles into a proper position to engage the cotton on the plants.
- 44** The rotary spindles mounted on a rotating drum or the like, by which they are carried bodily to and from a position to engage the cotton on the plants.
- 45** The spindle being flexible, so that the projecting ends of the same will bend downwardly by their own weight.
- 46** The spindle reciprocating longitudinally at the same time that it is being rotated on its longitudinal axis and being carried around bodily on the rotary carrier.
- 47** Having a track or guide which engages a cam connected with the spindles in order to guide the spindles into a proper position to engage the cotton on the plants.
- 48** Comprising a drum, cylinder, or the like rotating or oscillating on its axis and having means to engage and remove the cotton lint from the plants.
- 49** The picking means carried by an endless belt.
- 50** Elements of long slender form having lint-engaging means and usually rotated on their longitudinal axes to engage the lint in the boll.
- 51** Devices for harvesting Indian corn or similar growth not classifiable elsewhere.
- SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, subclasses 300+ for a conveyor carried by a ground vehicle, subclasses 604 and 626.1+ for opposed, load-gripping endless belt conveyors, and subclasses 506+ for a conveyor specialized for collecting a load from the ground.
- 52** Comprising means for breaking the standing stalks.
- (1) Note. This subclass includes machines for performing the operation on broom-corn known as tabling--i.e., breaking down the head and leaving it to hang top downward to dry.
- 53** Including means for cutting standing cornstalks or other stalks of similar nature, regardless of the ultimate disposition of the cut stalks.
- SEE OR SEARCH CLASS:
30, Cutlery, for hand implements for cutting corn, particularly subclass 297 and 309.
- 54** Having in combination with the stalk-cutting means, mechanism for trimming or cleaning broom-corn.
- SEE OR SEARCH CLASS:
460, Crop Threshing or Separating, subclasses 123+ for trimming or cleaning mechanism, per se.
- 55** Having a rotating reel for gathering the standing stalks and directing them to the cutter.
- 56** The cutters being so located as to sever the standing stalk close to the top and means for catching the top after it is cut off.

- (1) Note. These machines are more especially adapted for harvesting such crops as Kafir corn, milo maize, and feterita.
- SEE OR SEARCH CLASS:
99, Foods and Beverages: Apparatus, subclass 537 for a machine for cutting off the top from stalks which have previously been cut and subclasses 635 and 643 for cutting means that removes the tops from food.
- 57** Having a rotating reel for gathering the standing stalks and directing them to the cutter.
- 58** The reel rotating about a horizontal axis.
- 59** Having endless chains for gathering the standing stalks and directing them to the cutter.
- 60** Having means for cutting the stalks up into short lengths.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
13.7+, for a harvester having motorized plural cutter-units.
- 61** Having means for catching the short lengths of stalks after they are cut, the stalks so cut being generally used as silage.
- SEE OR SEARCH CLASS:
241, Solid Material Comminution or Disintegration, or the comminution or cutting of material of that class (241) type which may include the cutting of silage.
- 62** Having means for stripping off the leaves and removing the tops from the stalks as they are severed, being generally used in harvesting sugar-cane.
- SEE OR SEARCH CLASS:
460, Crop Threshing or Separating, subclasses 123+ for cane strippers, per se.
- 63** Having means for removing the tops from the stalks as they are severed.
- 64** Having, in connection with stalk-cutting mechanism, means for removing the ears from the stalks, with or without means for removing the husks from the ears.
- 65** Having a rotating reel for gathering the standing stalks and directing them to the cutter.
- 66** Having endless chains for gathering the standing stalks and directing them to the cutter.
- 67** Having automatic binding mechanism to bind the stalks into bundles after they are cut.
- 68** The stalks being bound into bundles while standing in upright position.
- 69** Having endless chains for gathering the standing stalks and directing them to the cutter.
- 70** Having means for adjusting the binding mechanism bodily, so that the stalks will be bound at any desired distance from, their ends.
- 71** Having mechanism for effecting the discharge of the cut stalks from the machine.
- 72** The discharging means comprising a crane or similar means for lifting the bundle of stalks bodily from the harvester and lowering it to the ground.
- (1) Note. Search this class, subclass 426 for bundle forming and discharging means of this type if the invention does not include gathering or cutting.
- (2) Note. Search Class 212, Traversing Hoists, appropriate subclasses for cranes, per se.
- 73** Having means for gathering the standing stalks and directing them to the cutter.
- 74** The gathering means including a rotating reel.
- 75** The gathering means including endless sprocket-chains.
- 76** The discharging means including an endless apron, which receives the cut stalks and discharges them onto the ground or into a vehicle traveling alongside the harvester.
- 77** Having a rotating reel for gathering the standing stalks and directing them to the cutter.

78	Having endless chains for gathering the standing stalks and directing them to the cutter.	SEE OR SEARCH THIS CLASS, SUB-CLASS: 14.3+, for a harvester having a motorized gatherer and cutter.
79	The stalk receptacle or platform being moved horizontally and tilted to discharge the collected stalks.	95 The gathering means including a rotating spiral.
80	Having means for gathering the standing stalks and directing them to the cutter.	96 The gathering means including a rotating reel.
81	The gathering means including a rotating reel.	97 The reel rotating about a horizontal axis.
82	The gathering means including endless sprocket-chains.	98 The gathering means including endless sprocket-chains.
83	The stalk receptacle or platform being tilted to discharge the collected stalks.	99 The gathering means being fixed relatively to the frame of the machine.
84	Having means for gathering the standing stalks and directing them to the cutter.	100 The cutting means consisting of one or more knives which are fixed with respect to the frame of the machine.
85	The gathering means including a rotating spiral.	101 The cutting means consisting of one or more knives which are fixed with respect to the frame of the machine.
86	The gathering means including a rotating reel.	102 Limited to the cutting element and those driven elements which are directly connected therewith.
87	The reel rotating about a horizontal axis.	103 Having means for detaching the ears from the standing stalks, with or without means for subsequently removing the husks which may be left on the ears.
88	The gathering means including endless sprocket chains.	SEE OR SEARCH CLASS: 460, Crop Threshing or Separating, sub-classes 25+ for husking mechanism, per se.
89	The gathering means being fixed relatively to the frame of the machine.	104 Comprising a pair of rotating rollers which pinch or snap the ear from the stalk.
90	The platform or bottom of the stalk- receptacle being retracted to permit the discharge of the accumulated stalks.	SEE OR SEARCH CLASS: 460, Crop Threshing or Separating, sub-classes 25+ for snapping or husking rollers, per se.
91	Having a rotating reel for gathering the standing stalks and directing them to the cutter.	492, Roll or Roller, for a roll, per se, not elsewhere provided for, and see the notes thereunder.
92	Having a rotating reel for gathering the the standing stalks and directing them to the cutter.	105 Having a plurality of pairs of rollers each acting on a separate row of corn.
93	Having endless chains for gathering the standing stalks and directing them to the cutter.	
94	Having means for gathering the standing stalks and directing them to the cutter.	

- 106** Having endless chains only to gather the standing stalks and direct them to the stripping-rollers.
- 107** Having means acting directly on the ear to assist the rollers in detaching the same from the stalk.
- 108** Having endless chains only to gather the standing stalks and direct them to the stripping-rollers.
- 109** Having movable means to gather the standing stalks and direct them to the stripping-rollers.
- 110** The movable gathering means comprising a rotating spiral.
- 111** The movable gathering means consisting of endless chains only.
- 112** Having means to adjust the position of the frame which carries the rollers with respect to the rest of the harvester-frame.
- 113** Having a fixed member on the frame, which engages the ears and detaches them from the stalks as the latter are drawn through the machine.
- 114** The snapping member consisting of a fixed bar with teeth in the form of a comb.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
19, 34, 127, 128, 129, and 330.
- 115** Having a fixed knife on or near the comb, which assists in severing the stem of the ear.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
113,
- 116** Comprising a comb which has a movement relative to the machine to engage the ears and strip them from the stalks, the distance between the teeth permitting the stalks to pass between, but not the ears.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
130, and 330.
- 117** Comprising a relatively movable knife which severs the ear from the stalk.
- 118** The knife carried on a traveling endless chain.
- 119** Limited to the means for gathering the stalks and directing them to the cutter or ear-detaching means or for guiding the stalks from the cutter to the stalk-bundling mechanism.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
14.2, for a harvester having a motorized gatherer and snapping roller-couple.
- 120** Comprising means attached to a corn-harvesting machine peculiarly adapted to receive bundles of corn-stalks after they are cut and bound and to load the same onto a vehicle traveling alongside.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
76, 77 and 78.
- 121** Comprising means attached to a corn-harvesting machine for receiving and carrying bundles of corn-stalks after they are cut and bound until a desired number have been accumulated.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
474, through 480, for sheaf-carriers for small grain.
- 121.4** This subclass is indented under the class definition. Apparatus including a carriage or mount having cutting means and having gauging means adapted to contact the crop to control the height of the cutting means.
- (1) Note. The cutter generally functions to cut off the crown and foliage of root crops, such as beets, generally arranged in rows.
- SEE OR SEARCH CLASS:
99, Foods and Beverages: Apparatus, subclasses 635+, for end cutters working on crops after removal from the ground, and subclass 491, for a cutter that is positioned by the food to be cut.

- 171, Unearthing Plants or Buried Objects, subclass 32, 33 and 34+ for gage controlled cutter means for detachment of plant parts combined with apparatus for unearthing such plants.
- 172, Earth Working, subclasses 5+ for earth working apparatus with an automatic power control having a plant sensing means.
- 121.41** This subclass is indented under subclass 121.4. Apparatus where the gauging and cutting means are freely supported by a carriage or the like for sidewise movement relative thereto so that the gauging and cutting means may follow the irregularities of the individual plants in the row.
- 121.42** This subclass is indented under subclass 121.4. Apparatus having means to lift and arrange the foliage or to otherwise manipulate the foliage so as to present it to the gauging and cutting mechanism in an orderly predetermined fashion.
- 121.43** This subclass is indented under subclass 121.4. Apparatus having cutting means in addition to the topping cutter which may either (1) cut at a different height or (2) make a slitting cut on the top or crown of the beet so as to divide the top into segments.
- 121.44** This subclass is indented under subclass 121.4. Apparatus having means acting to move the cut tops out of the path traversed by the gauging and topping mechanism.
- 121.45** This subclass is indented under subclass 121.44. Apparatus where the means moving the cut tops has motion relative to the carriage.
- (1) Note. The clearing or moving means may itself be attached to or integral with a moving cutting device, and may be disclosed merely as operating to clear the cutting device.
- 121.46** This subclass is indented under subclass 121.4. Apparatus wherein the gauging means is movable with respect to the cutter for regulating the depth of the cut responsive to the height and/or diameter of the crown to thereby control the thickness of the severed crown; i.e., the higher the crown the deeper the cut.
- 122** Having means for cutting standing grain, means for threshing the same, and means for conveying the cut grain from the cutter to the thresher.
- SEE OR SEARCH CLASS:
460, Crop Threshing or Separating, appropriate subclasses, for threshing mechanism, per se.
- 123** The cutting mechanism comprising a knife which has a reciprocating motion transversely of the path of the machine.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
20,
- 124** The axes of each set of supporting-wheels being in alinement and the cutter centrally located with respect to the path of the machine.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
21,
- 125** The cutter-frame hinged to swing vertically with respect to the main frame of the machine about a longitudinal axis.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
20,
- 126** Machines for gathering seed or grain from standing stalks or from the ground, including those which thresh from the standing stalks, sometimes having a grain separator in combination therewith.
- (1) Note. This subclass and those indented thereunder may include machines having a knife which merely assists the stripping action.
- SEE OR SEARCH CLASS:
460, Crop Threshing or Separating, appropriate subclasses, for grain separating mechanism, per se, or for threshing mechanism which threshes the stalks after they are cut.

- 127** Comprising a fixed comb, between the teeth of which the stalks are drawn to strip the seed or grain therefrom.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
19, 114, 115, and 330.
- 128** Having a rotary member which beats the heads to assist the comb in removing the seed or grain therefrom.
- 129** The axes of each set of wheels being in alignment and the comb centrally located with respect to the path of the machine.
- 130** Comprising a moving comb which moves through the grain and strips the seed or grain from the stalks the latter passing through between the teeth of the comb.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
19, 116 and 330.
- 131** Machines having means to cut grain or the like, a platform upon which the grain falls as it is cut, means for binding the grain into sheaves, and means for conveying the grain from the platform to the binder.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
22, for machines of this type having a motor for driving all or some portion of the mechanism; 432 et seq., for inventions limited to the binding mechanism, per se, and 153 and the subclasses indented thereunder for inventions relating to cutting and conveying not limited to machines which bind the grain into sheaves.
- SEE OR SEARCH CLASS:
100, Presses, subclass 6 for binder applying apparatus, not otherwise provided for, and not involving gathering of material from the ground, and including some means to cut or rupture the material into parts.
198, Conveyors: Power-Driven, appropriate subclasses, for conveyors which are of general application.
- 132** Wherein the band is of wire or similar material, the ends being twisted together to secure the band around the sheaf.
- 133** Wherein the band is of straw or similar material and is secured about the sheaf by twisting the ends together and tucking them into the sheaf or under some portion of the band.
- 134** Wherein the cutter and platform on which the grain falls may be folded to facilitate transportation from one field to another.
- 135** Wherein the binder is located on the stubbleward side of the main or bull wheel, the grain being conveyed from the platform where it falls over the main wheel to the binder.
- 136** The binder mechanism capable of being folded bodily on the rest of the machine for convenience in transporting the same.
- 137** The binder adjustable longitudinally, so that the band may be tined around the sheaf at the desired distance from the end, whatever the length of the cut stalks.
- 138** The invention including specific knot-tying mechanism.
- 139** The invention including specific knot-tying mechanism.
- 140** The binding mechanism acting on the grain while the stalks are in upright position.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
68, 69, and 70.
- 141** Wherein the sheaf, after being bound, is discharged from the binder in the direction of its length.
- 142** The invention including specific knot-tying mechanism.
- 143** Wherein the grain is bound and discharged from the machine without being raised as high as the upper rim of the main or bull wheel.

- | | |
|--|--|
| <p>144 Therein the grain in passing from the platform, where it falls to the binder, is carried in a curved path.</p> <p>145 The invention including specific knot-tying mechanism.</p> <p>146 The sheaf being discharged onto the ground or a sheaf-carrier inside of the main or bull wheel of the machine.</p> <p>147 The invention including specific knot-tying mechanism.</p> <p>148 The sheaf being discharged onto the ground or a sheaf-carrier outside of the main or bull wheel of the machine.</p> <p>149 Wherein the grain passes through the main or bull wheel to the point of discharge.</p> <p>150 The invention including specific knot-tying mechanism.</p> <p>151 The invention including specific knot-tying mechanism.</p> <p>152 The invention including specific knot-tying mechanism.</p> <p>153 Machines having means to cut grain or the like, a platform upon which the grain falls as it is cut, and means for moving the grain from the platform to a point of discharge.</p> <p>(1) Note. Search this class, subclass 14.5, for a harvester having a motorized cutter and conveyor, and 192, for cutting-machines provided with a chute or the like for directing the cut material into a window.</p> <p>(2) Note. Search Class 198, Conveyors: Power-Driven, appropriate subclasses, for conveyors which are of general application.</p> <p>154 Wherein the cutting elements travel on an endless chain or belt.</p> <p>155 Wherein the cutting elements oscillate about pivots coacting with each other or with a fixed ledger-plate to effect a shearing action.</p> | <p>156 The cutter comprising knives mounted on the periphery of a rotating reel and coacting with a fixed ledger-plate.</p> <p>157 The cutter comprising a disk having a serrated or sharpened edge and rotating on an axis perpendicular to the plane of the disk.</p> <p>158 Therein the platform is adapted to support a reciprocating cutter.</p> <p>(1) Note. In this subclass and those indented thereunder the cutter may not be claimed or even specifically shown, but the invention is peculiarly adapted to this type of harvester--i.e., something more than a mere conveyor of general application.</p> <p>159 Wherein the cutter and platform on which the grain falls may be folded to facilitate transportation from one field to another.</p> <p>160 Having a platform on which one or more persons may stand to bind the grain manually as it is carried thither by the conveyor.</p> <p>161 The conveying means comprising a rake automatically operated to rake the grain from the cutter-platform to the binder's platform.</p> <p>162 The rake carried by a traveling endless belt.</p> <p>163 The conveying means comprising a rake manually operated to rake the grain from the cutter-platform to the point of discharge.</p> <p>164 The conveying means comprising a rake automatically operated to rake the grain from the cutter-platform to the point of discharge.</p> <p>165 Having tongs of grappling-arms which hold the material, after it is raked into a gravel, until it can be bound manually into a sheaf.</p> <p>166 Having means to receive the grain as it is raked from the platform, which may be dumped to discharge the collected material.</p> <p>167 This subclass is indented under subclass 164. Apparatus wherein the rake is of the rotating type. Included are devices wherein a standing-grain gathering reel also coacts with the plat-</p> |
|--|--|

- form to move the fallen grain therefrom after it has been cut.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
219+, for gathering devices acting on the standing grain only.
- 168** The head of the rake reciprocating to and from its axis as it rotates.
- 169** The rake rotating about a vertical axis, usually having also an irregular vertical movement to cause it to engage the grain at the proper point in its course and to rise out of the way of the operator after leaving the grain at its point of discharge.
- 170** Having a switch to control the vertical movement of the rake to cause it to rake the grain from the platform only when desired.
- 171** Wherein the switch is automatically operated at some predetermined time.
- 172** Having manually-controlled means to cause the switch to be operated sooner or later than it would be operated by the automatic means alone.
- 173** Wherein the rake is moved rectilinearly to rake the grain from the platform and is returned over the same course, the rake usually having some additional movement on its return course to enable it to pass over the grain then lying on the platform.
- 174** The movement of the rake controlled by a traveling endless belt or chain.
- 175** The belt itself having a reciprocating movement.
- 176** Wherein the rake travels in a vertical circuit--that is, a given point on the rake travels substantially in a vertical plane.
- 177** The rake being mounted on and carried by belts or chains, frequently traveling beneath the platform, with the teeth extending up through the same to rake the grain therefrom.
- 178** Wherein the rake travels in a horizontal circuit--that is, a given point on the rake travels substantially in a horizontal plane.
- 179** The rake being mounted on and carried by belts or chains.
- 180** Raking elements peculiarly adapted for use in mechanism for raking grain from a harvester platform.
- 181** Wherein an endless carrier moving over the platform receives the grain as it is cut and either by itself or in connection with other endless carriers supports the grain while it is conveyed to the point of discharge.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
177, for machines having endless belts carrying teeth which rake the grain from the platform to the point of discharge.
- 182** The grain in its travel being deflected forwardly or rearwardly or the direction of the stalks changed.
- 183** The endless carrier moving intermittently.
- 184** The endless carrier delivering the grain into a receptacle, which is discharged at intervals.
- 185** The invention including means for elevating the grain above the level of the platform to enable it to pass over the bull-wheel or onto an elevated deck.
- 186** Having coaxial wheels and the cutter mounted centrally of the path of the machine.
- 187** Wherein the platform may be tilted to raise or lower the cutter.
- 188** The tongue, which may be either behind or in front of the platform, having a pivotal connection therewith.
- 189** Attachments of the nature of a chute which is so disposed as to receive the material from the conveyor and deliver the same to the ground in a swath.

- 190** Devices attached to a machine to prevent the wind from disarranging the position of the material as it is cut and conveyed to the binder-deck or to a point of discharge.
- 191** Platforms attached to the machine on which one or more persons may stand to bind the grain manually as it is delivered from the conveyor.
- 192** This subclass is indented under the class definition. Machines having means for cutting growing crops and means for catching the material as it is cut and discharging it in a windrow. Included here are windrowing attachments for the cutter-bar of a harvester.
- 193** Machines having means for cutting growing crops and means for raking up the cut material after it falls on the ground.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
400.05+, for hand rakes combined with cutters.
- 194** Machines having means for cutting growing crops and means for catching the cut material as it falls.
- 195** Wherein the cutter projects to one side of the machine beyond the path of the supporting wheels.
- 196** The cutter located behind a line drawn transversely through the supporting wheels.
- 197** The cutter located in front of a line drawn transversely through the supporting wheels.
- 198** The cutter comprising a rotating reel with knives located on the periphery thereof.
- 199** The invention limited to the catcher element, with, means peculiarly adapted for attaching it to a machine of the rotary-cutting reel type.
- 200** Having means for discharging the catcher without detaching the same or inverting the machine.
- 201** Having a handle or other means adapting it to manual propulsion.
- 202** The invention limited to the catcher element and means for attaching it to a cutter-bar.
- 203** Having means for discharging the catcher directly.
- 204** The catcher making a complete revolution as it is moved to discharge the load and is returned to receiving position.
- 205** The catcher having a gate at its rear side, which may be swung upwardly to allow the contents of the catcher to be discharged.
- 206** The rear wall of the catcher comprising a member which may be swung backwardly and downwardly to discharge the contents of the catcher.
- 207** Devices peculiarly adapted to be attached to some portion of a harvester in such a position as to catch grain which is shelled out during the operation of harvesting and which would otherwise be lost.
- 208** Devices for adjusting the position with relation to the ground of the platform on which the grain falls as it is cut.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 663+ and the subclasses there noted for earth working apparatus with actuators for making various adjustments.
280, Land Vehicles, subclasses 6.15+ for a land vehicle of general utility having means, interposed between the vehicle body, chassis, or frame and running gear thereof, for altering height or levelness of the vehicle body, chassis, or frame; or subclasses 43+ for a land vehicle of general utility having vertically adjustable wheels for altering a dimension of the vehicle or a part thereof.
- 209** Comprising means for leveling the platform when the harvester is operating on a sidehill.
- 210** Wherein the platform is rigidly connected with the main frame of the machine and the whole is adjusted as a unit on the wheel-frame.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 218, for tongue adjustments which on a one or two wheel machine produce, in effect, a change in the position of the main frame.
- 211** Wherein the adjustment is effected by power derived from the traction-wheels while the machine is moving over the ground.
- SEE OR SEARCH CLASS:
 172, Earth Working, subclass 402, 403+ and 407+ for earth working implements in which a wheel is adjusted vertically with respect to a frame by power derived from its rolling movement over the ground.
- 212** Having means to adjust the frame vertically and also means to tilt the frame about a transverse axis.
- 213** Wherein the means for vertically adjusting both sides of the frame are connected to the same operating mechanism and may be operated simultaneously.
- 214** Having means to adjust the frame vertically.
- 215** Wherein the wheel-frame is pivoted to the main frame and carries a pinion, which meshes with a segment-rack on the main frame, the curvature of the segment-rack being concentric with the pivot of the wheel-frame and the pinion being rotated to raise or lower the main frame.
- 216** Wherein the means for adjusting both sides of the frame are connected to the same operating mechanism and may be operated simultaneously.
- 217** Wherein the means for adjusting both sides of the frame are connected to the same operating mechanism and may be operated simultaneously.
- 218** Means peculiarly adapted to adjust or support the tongue of a harvester.
- SEE OR SEARCH CLASS:
 172, Earth Working, subclasses 324+ for an actuator on a trailing ground supported frame for moving a tongue means laterally or vertically.
 278, Land Vehicles: Animal Draft Appliances, subclasses 86+ for tongue supports for vehicles in general.
- 219** Devices for gathering the standing grain, directing it to the cutting mechanism, and guiding it in its fall when it is cut.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 164+, for gathering devices which also rake the grain from the platform.
- SEE OR SEARCH CLASS:
 198, Conveyors: Power-Driven, subclass 604 and 626.1+ for opposed, load-gripping endless belt conveyors, and subclasses 506+ for a conveyor specialized for collecting a load from the ground.
- 220** Comprising a reel which rotates on a horizontal axis.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
 167, and 168.
- 221** Comprising means for adjusting the reel vertically or longitudinally to adapt it to cutters of different height or to grain of different length.
- 222** Wherein the means for rotating the reel are disclosed.
- 223** Wherein the reel is driven by angular gearing, which may slide on the driving-shaft to permit the adjustment of the reel.
- 224** Wherein the reel is driven by an endless belt or chain, the tension of which may be adjusted to compensate for the adjustment of the position of the reel.
- 225** Wherein each end of the reel axis is mounted at the end of a swinging arm or a series of such arms and the driving connections of the reel are mounted concentrically with said arms.

- 226** Wherein the reel-bats have a supplementary movement in addition to the rotation of the reel.
- 227** Wherein the position of the bats on the reel may be adjusted, including adjustments for the purpose of transportation.
- 228** Devices peculiarly adapted for attachment to harvesters to facilitate transportation thereof from one field to another.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 240+ for an earth working implement with a ground support means engageable with the ground for transport only.
- 229** Means supported on the ground and specialized to the cutting or mowing of small grain, grass and the like.
- 230** Wherein the cutting mechanism is mounted on a railroad vehicle and is adapted to trim the grass and weeds growing alongside the track.
- 231** Wherein knives carried on the periphery of a rotating reel coact with a fixed ledger plate to sever the standing vegetation.
- 232** Wherein the knife reciprocates transversely to the path of advance to sever the standing vegetation.
- 233** Devices peculiarly adapted for use in trimming the top or sides of a hedge or row of plant growth.
- SEE OR SEARCH CLASS:
30, Cutlery, subclasses 196+ for hand manipulated hedge trimmers. See (19) Note after the definition of Class 30.
- 234** Having several cutters operating in planes at an angle to each other.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
13.6+, for a motorized harvester having plural cutter-units.
- 235** Wherein each cutter comprises a rotary disk with a sharpened or serrated edge.
- 236** Wherein each cutter comprises a reciprocating knife.
- 237** Having a single cutter which may be so adjusted as to trim either the top or side of a hedge or the like.
- 238** Wherein one cutter cuts off the top of the vegetation and a following cutter cuts it closer to the ground.
- 239** Wherein the cutter is operated by hand power directly.
- SEE OR SEARCH CLASS:
30, Cutlery, appropriate subclasses, where no means is provided for guiding the cutter a definite distance from the ground. See (19) Note after the definition of Class 30.
- 240** Wherein the cutting elements oscillate about pivots coacting with each other or with a fixed ledger plate to effect a shearing action.
- 241** Having only two cutting edges, which coact like a pair of shears.
- 242** Wherein the cutting element reciprocates within a finger-bar.
- 243** Wherein the power for driving the cutter is applied through a hand-crank.
- 244** Wherein the cutting elements travel on an endless chain or belt.
- 245** Wherein the cutting mechanism projects to one side of the machine beyond the path of the supporting wheels.
- 246** Wherein the cutting elements oscillate about pivots coacting with each other or with a fixed ledger plate to effect a shearing action.
- 247** The cutters operating in a vertical plane.
- 248** The cutting mechanism projecting to one side of the machine beyond the path of the supporting wheels.

- 249** The cutter comprising knives mounted on the periphery of a rotating reel and coacting with a fixed ledger plate.
- 249.5** This subclass is indented under subclass 249. Cutting machines which have means permitting the ready interchange of reel or reel and cutter bar units.
- (1) Note. The ready interchange is limited to those in which the frame and/or wheels of the machine need not be disassembled.
- (2) Note. Reels or reels and cutter bar units of different type or design which may be used interchangeably are included here.
- 250** Wherein the invention comprises a change in the organization of the machine to facilitate the sharpening of the knives.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
12.1, for a motorized cutter and sharpening means therefor.
- SEE OR SEARCH CLASS:
76, Metal Tools and Implements, Making, subclass 82 for mere sharpening devices, which may include means for attachment to or adjustment on a mower.
451, Abrading, for a method of or apparatus for sharpening a harvester blade.
- 251** Having another cutter in addition to the main rotating cutting-reel.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
7, 13.6+, 231, 234, and 238.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 13+ for lawn edgers which make a groove in the earth.
- 252** Wherein the cutter extends in front of the wheel-tread, so as to cut the grass or the like before the wheel passes over the same.
- 253** Having two wheels which are coaxial and the cutter disposed centrally of the path of the machine.
- 254** Having a pinion on the cutting-reel axis meshing directly with an internal gear on one of the ground-wheels.
- 255** The cutter comprising a disk having a serrated or sharpened edge and rotating on an axis perpendicular to the plane of the disk, the disk cooperating with another or with a fixed ledger-blade.
- 256** The cutting-disk operating in a vertical plane.
- SEE OR SEARCH CLASS:
171, Unearthing Plants or Buried Objects, subclass 5 for vegetation cutters mounted in vertical planes.
172, Earth Working, subclasses 518+ for rolling earth working tools including disks operating in a vertical plane.
- 257** Comprising a cutter which reciprocates in a fingerbar transversely to the direction of travel and which is located centrally of the path of the machine.
- 258** Having two supporting-wheels whose axes are in alinement.
- 259** The cutter comprising two sets of knives reciprocating in the same finger-bar in opposite directions.
- 260** Wherein the driving mechanism includes a pitman.
- 261** Having a lever interposed between the pitman and cutter.
- 262** Wherein the driving mechanism includes a rotating cam.
- 263** Having a lever interposed between the cam and cutter.
- 264** Comprising a cutter reciprocating within a fingerbar which projects to one side of the path of the wheels.

- 265** Wherein the mechanism for driving the cutter passes through one of the ground-wheels.
- 266** Having means whereby the machine may cut when traveling in either direction.
- 267** Wherein for the purpose of transportation the cutter may be folded into a horizontal longitudinal position close to the side of the machine.
- 268** The cutter located behind a line drawn transversely through the supporting wheel or wheels.
- 269** Having two supporting-wheels whose axes are in alinement.
- 270** Wherein the mechanism for reciprocating the cutter includes a cam or lever and not merely a crank and pitman.
- 271** The cutter located in front of a line drawn transversely through the supporting wheel or wheels.
- 272** Having two supporting-wheels whose axes are in alinement.
- 273** Wherein the finger-bar is lifted by traction or motor power.
- SEE OR SEARCH CLASS:
172, Earth Working, subclasses 452+ for apparatus comprising an actuator adapted to lift an earth working tool for transport on a wheeled frame.
- 274** Means for automatically shipping the clutch when the cutter-bar is raised beyond a certain point.
- 275** The cutter comprising two sets of knives reciprocating in the same finger-bar in opposite directions.
- 276** Having means for raising the cutter-bar and means for rocking it, so as to raise or lower the points of the guard-fingers.
- 277** Having a foot-lever which may be used in adjusting the position of the cutter-bar.
- 278** The lifting means including a lever of the first class, which impinges upon the inner end of the cutter-bar, inside its pivot, to raise the outer end of the same or to maintain it at the desired elevation.
- 279** Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 280** Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 281** The lifting means including a lever of the first class, which impinges upon the inner end of the cutter-bar, inside its pivot, to raise the outer end of the same or to maintain it at the desired elevation.
- 282** Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 283** Having means for raising the cutter-bar.
- 284** Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 285** Having a foot-lever which may be used in raising the cutter-bar.
- 286** The lifting means including a lever of the first class, which impinges upon the inner end of the cutter-bar, inside the pivot, to raise the outer end of the same or to maintain it at the desired elevation.
- 287** Wherein the invention comprises only the mountings for the cutter-bar and not the gearing.
- 288** Wherein the invention is limited to means for adjusting the outer end of the cutter-bar forwardly or backwardly to bring it into proper alinement with the pitman.
- 289** The knives and their mountings and parts directly attached thereto including means for adjusting the relation of knives to each other, but not for regulating the height of cut.

- 290** Wherein the knives are carried by an endless chain or belt.
- 291** Wherein the path of the chain or belt which carries the knives is in a horizontal plane.
- 292** Having means for adjusting the tension of the cutter-chain.
- 293** Comprising knives which oscillate about pivots coacting with each other or with a fixed ledger-plate to effect a shearing action.
- 294** Comprising knives mounted on the periphery of a rotating reel and coacting with a fixed ledger-plate.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
249+, for harvester type combinations including a rotating cutting reel.
- 295** Comprising a disk having a serrated or sharpened edge and rotating on an axis perpendicular to the plane of the disk.
- 296** Comprising knives which have a reciprocating motion within or on a supporting member.
- 297** Having two sets of knives reciprocating in opposite directions.
- 298** Comprising improvement in both the sickle and the member within which it reciprocates or in the combination of the two.
- 299** Wherein the invention is limited to the knives and the bar to which they are attached.
- (1) Note. If the improvement is in the knife-head; that is, the part to which the pitman is connected, it is classified in subclass 303.
- 300** Wherein the knife-sections have detachable connection with the bar on which they are mounted.
- 301** Wherein the knife-sections can be removed only by passing them in turn over the end of the bar.
- 302** Wherein an auxiliary bar is employed to lock the knife-sections in place on the knife-bar.
- 303** Wherein the invention is limited to the knife-head, which is connected directly to the pitman or driving-lever, and that portion of the finger-bar within which the knife-head is guided.
- 304** Comprising means for reducing the friction between the cutter and the member in which it reciprocates.
- 305** Comprising clips or arms for guiding the knife-bar and maintaining it in close contact with the member on which it reciprocates.
- 306** Comprising means for reducing the shock at the end of the reciprocating stroke of the knife-bar.
- 307** Wherein the invention is limited to the member on or within which the knives and knife-bar reciprocates.
- 308** Wherein the invention includes a modification of the guard-finger.
- 309** The guard-finger having a ledger-plate inserted therein which co-operates with the reciprocating cutter.
- 310** Wherein the invention is wholly in the guard-fingers.
- 311** The guard-finger having a ledger-plate inserted therein which co-operates with the reciprocating cutter.
- 312** Supplemental fingers attached to the finger-bar or guard-fingers to raise tangled or lodged vegetation above the reciprocating cutter.
- 313** Having a socket to fit over the point of the guard-finger to hold the supplemental finger in place.
- 314** Means for dividing the growth to be cut from the rest of the growth and for directing the same after it is cut away from the sides of the swath toward the center.
- 315** Comprising a cutter operating in a vertical plane at the end of the main cutter.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
8, and 9, for devices for cutting vegetation on the bottom and sides of a channel.
- 316** The vertical cutter being of the reciprocating type.
- 317** Including driving means for imparting movement to the track-clearer as the machine moves over the ground.
- 318** Having a socket to fit over the point of the shoe to hold the clearer or divider in place.
- 319** Wherein the clearer or divider is so mounted that it may be folded to facilitate transportation.
- 320** Having a supplemental clearer attached to the main divider or clearer or in front of the master-wheel.
- 320.1** This subclass is indented under subclass 229. Device comprising structure to support or enclose the cutting blade of a harvester as the blade moves to perform its function.
- 320.2** This subclass is indented under subclass 320.1. Housing having a passageway therein to permit crop to emerge from the housing.
- 321** Devices for overcoming or lessening the tendency of the harvester to swing sidewise owing to the resistance or drag of the cutter projecting to one side of the main supporting wheel or wheels.
- SEE OR SEARCH CLASS:
278, Land Vehicles: Animal Draft Appliances, subclasses 3 through 20 , indented under Draft Equalizers, for similar devices of general application.
- 322** Inventions which include a wheel, which supports one end of the cutter-bar, in combination with other parts essential to a harvester.
- SEE OR SEARCH CLASS:
280, Land Vehicles, subclass 78 for a land vehicle of general utility which is normally supported by a single wheel;
- subclasses 82+ for devices specially adapted to support and guide a draft coupling or tongue of a vehicle; or subclasses 86+ for a land vehicle of general utility including a swivel truck (i.e., caster wheel).
- 323** Inventions which include a seat in combination with some part of the harvesting mechanism, usually such as to throw the cutter out of operation when the driver leaves his seat.
- 324** Hand implements including a cutter, a handle for the same, and a series of fingers which constitute a cradle for catching a quantity of grain as it is cut, so that it may be laid evenly in a swath.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
324.5,
- SEE OR SEARCH CLASS:
30, Cutlery, subclass 309, for sickles and scythes.
- 324.5** Couplings peculiarly adapted for fastening the type of scythe used in grain-cradles to the snathes.
- 327.1** **VEGETABLE GATHERER:**
This subclass is indented under the class definition. Device for gathering a vegetable, such as a cabbage, cucumber, onion, and the like.
- SEE OR SEARCH CLASS:
171, Unearthing Plants or Buried Objects, appropriate subclasses for devices for recovering vegetables from the earth by pulling, combing through the earth, digging and separating and severing below the earth's crust; and see particularly subclass 63 for devices for gathering stones from a field or the like.
- 327.2** **Asparagus harvester:**
This subclass is indented under subclass 327.1. Device in which the vegetable has a stalk upon which the vegetable grows, and the device includes means for holding the stalk and means for cutting the vegetable from the stalk while the latter is being held.

328.1 FRUIT GATHERER:

This subclass is indented under the class definition. Device especially adapted for use in gathering a fruit or nut.

SEE OR SEARCH CLASS:

150, Purses, Wallets, and Protective Covers, subclass 2; 220, Receptacles, appropriate subclasses and 224, Package and Article Carriers, appropriate subclasses for receptacles which may be used by fruit-pickers.

171, Unearthing Plants or Buried Objects, subclasses 63+ for devices for gathering stones from a field or the like

198, Conveyors: Power-Driven, appropriate subclasses for conveyors, per se, which may be used for conveying fruit from the tree to the ground.

329 Comprising means to be placed under a tree or bush to catch fruit as it falls.

330 Comprising means for stripping cranberries, blueberries, gooseberries, and the like from the bushes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

114, and 127.

331 Comprising means for cutting the stems of grapes, cherries, strawberries, and the like, in combination with means for catching them as they are severed.

SEE OR SEARCH CLASS:

30, Cutlery, appropriate subclasses for the cutter, per se; and see Note (19) after the definition of Class 30.

332 Having means on the end of a pole for detaching fruit which cannot be readily reached by the hand, in combination with means for catching the fruit as it becomes detached to prevent it from falling to the ground and becoming bruised.

SEE OR SEARCH CLASS:

30, Cutlery, appropriate subclasses, for the cutter, per se, and see Note (19) after the definition of Class 30.

294, Handling: Hand and Hoist-Line Implements, subclasses 19.1+, for pole structures adapted for handling articles at a distance and see the search there noted.

333 Comprising two coacting jaws, one of which is pivoted to close over the fruit and detach the same.

334 Having a chute leading from the jaws to the ground or to the operator.

335 Comprising a pivoted knife which is operated to sever the stem of the fruit.

SEE OR SEARCH CLASS:

30, Cutlery, appropriate subclasses for the cutter, per se, and see Note (19) after the definition of Class 30.

336 Having a chute which guides the fruit to the ground or to the operator after the stem is severed.

337 Comprising two jaws, one of which is mounted to slide toward the other and detach the fruit which is between them.

338 Comprising a knife which is mounted to slide back and forth to sever the stem of the fruit.

SEE OR SEARCH CLASS:

30, Cutlery, appropriate subclasses, for the cutter, per se, and see Note (19) after the definition of Class 30.

339 Comprising a member fixed with relation to the pole, which is moved against the fruit or the stem to detach the fruit.

340 Having a chute which guides the fruit to ground or to the operator after the stem is severed.

340.1 Tree Shaker:

This subclass is indented under subclass 328.1. Device in which the fruit or nut grows on a tree, and the device includes means for grasping and shaking the tree to remove the fruit or nut.

341 Devices for raking hay, straw, and the like and securing it in a bundle.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
346, and the subclasses indented thereunder for machines which rake the material and form it into a cock without otherwise securing it.
- SEE OR SEARCH CLASS:
100, Presses, subclasses 1+ for binder applying methods and apparatus, not otherwise classifiable and not involving raking of material from the ground.
- 342** Wherein the device is drawn over the field and operated by hand-power.
- 343** Wherein the bundle is secured by a cord tied around it.
- SEE OR SEARCH CLASS:
289, Knots and Knot Tying, appropriate subclasses, for the knotter mechanism, per se.
- 344** Machines especially adapted to travel over the ground and continuously gather hay, straw, or the like therefrom and deliver it into a receptacle.
- (1) Note. For hand rakes provided with means to receive the raked material, see this class, subclasses 400.11+.
- (2) Note. Machines having a fork or set of fingers which gather a load and are then raised to lift the load and dump it are classified in Class 414, Material or Article Handling.
- SEE OR SEARCH CLASS:
198, Conveyors: Power-Driven, subclass 517 for a reciprocating pusher conveyor for feeding a load from the ground to another conveyor, and subclasses 308.1 and 522 for tines feeding a load to a conveyor.
- 210, Liquid Purification or Separation, subclass 158 and 159 for flume screen cleaners.
- 345** Having an endless carrier for elevating the material and delivering it to the receptacle.
- (1) Note. For hand rakes having an endless raking member for delivering material into a receiver, see this class, subclasses 400.02 and 400.03.
- 346** Wherein the receptacle may be intermittently operated to deposit the material on the ground, frequently having special structure for forming it into a symmetrical cock.
- 347** Having means which are moved to carry the material within reach of the endless carrier.
- 348** Having relatively stationary teeth which rake up the material as the machine advances and assist in directing it to the endless carrier.
- 349** Having relatively stationary teeth which rake up the material as the machine advances and direct it to the endless carrier.
- 350** Wherein the endless carrier delivers the material rearwardly into the receptacle.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
346,
- 351** Having means which are moved to carry the material within reach of the endless carrier.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
347,
- 352** Having relatively stationary teeth which rake up the material as the machine advances and assist in directing it to the endless carrier.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
348,
- 353** Having relatively stationary teeth which rake up the material as the machine advances and direct it to the endless carrier.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
349,
- 354** Wherein the endless carrier delivers the material into a receptacle laterally of the machine.

- 355 Having means which are moved to carry the material within reach of the endless carrier.
- 356 Having relatively stationary teeth which rake up the material as the machine advances and assist in directing it to the endless carrier.
- 357 Having relatively stationary rake-teeth which rake up the material as the machine advances and direct it to the endless carrier.
- 358 Having means which are moved to carry the material within reach of the endless carrier.
- 359 Having relatively stationary rake-teeth which rake up the material as the machine advances and assist in directing it to the endless carrier.
- 360 Having relatively stationary rake-teeth which rake up the material as the machine advances and direct it to the endless carrier.
- 361 Wherein the receptacle may be intermittently operated to deposit the material on the ground, frequently having special structure for forming it into a symmetrical cock.
- 362 Wherein the material is elevated by mechanism comprising a series of bars, each bar having a series of teeth which have a pawing movement and successively engage the material and elevate it into the receptacle.
- 363 Having an auxiliary rake which rakes the material from the ground into position to be engaged by the elevating-teeth.
- 364 Comprising a series of bars revolving about a common axis parallel thereto, said bars having rake-teeth thereon which are usually retracted when near the highest point in their orbit.
- 365 Machines which may be used either to rake hay or to kick it up or scatter it, so as to facilitate drying.
- 366 Wherein the machine when used as a rake delivers the hay to one side of the path of the rake.
- (1) Note. This subclass includes machines having two rakes spaced apart, which deliver the hay in a windrow between them.
- 367 Wherein when the machine is used as a rake a series of teeth gather the hay and revolve about a transverse axis to dump it.
- 368 Wherein the rake is dumped by the same power which propels the machine.
- 369 Wherein the teeth which scatter the hay are journaled on a crank-shaft which extends transversely of the machine and rotates to impart a kicking movement to the teeth.
- 370 Machines for scattering hay to facilitate its drying, of for turning windrows of curing hay or analogous material.
- 371 Wherein the tedder is attached to a mower, so as to ted the grass as it is cut.
- 372 This subclass is indented under subclass 370. Machines in which the teeth or other scattering or turning means rotate around an axis which extends transversely or diagonally of the machine.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
366, and 367, for similar machines convertible to rakes.
- 373 Wherein the teeth are journaled on a crank-shaft which extends transversely of the machine and rotates to impart a kicking movement to the teeth.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
369,
- 374 Hay engaging elements especially adapted for use in tedders.
- 375 Rakes which are propelled over the field by draft-animals.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
400.01+, for hand rakes.

- SEE OR SEARCH CLASS:
 171, Unearthing Plants or Buried Objects, subclass 19 for rakes which are combined with an unearthing device for the purpose of gathering the objects recovered by said unearthing device, and subclasses 84+ for soil working rakes which comb through a mass of earthy material and separate therefrom the desired objects contained therein.
- 376** Wherein the raked material is delivered to one side of the path of the rake.
- (1) Note. This subclass includes machines having two rakes spaced apart, which deliver the material in a windrow between them.
- 377** Comprising a rotating member having rake-teeth on its periphery and mounted on an oblique axis.
- SEE OR SEARCH CLASS:
 172, Earth Working, subclasses 540+ for rolling or rotating earth working tools with tines or teeth.
- 378** Wherein the raked material is delivered to the rear of the machine.
- 379** Wherein the rake swings upwardly to discharge the raked material and moves in the same direction about its axis to return to its original position.
- (1) Note. There are usually two or more sets of rake-teeth which are successively thrown into raking position. While one set of teeth is in raking position the other remains inoperative.
- SEE OR SEARCH CLASS:
 172, Earth Working, subclass 237 and the subclasses there noted, for an earth working tool swung around an axis intermittently due to draft force.
- 380** Wherein the rake is supported by ground-wheels.
- 381** The rake revolving of an axis which remains in a fixed position on the machine-frame.
- 382** Having a stop which engages a tooth of one set while another set of teeth is in raking position.
- 383** Having a stop which engages a tooth of one set while another set of teeth is in raking position.
- 384** Wherein the rake is supported by ground-wheels.
- 385** Having means for reducing the width of the rake.
- SEE OR SEARCH CLASS:
 172, Earth Working, subclass 456 for contractible implement structure to facilitate its transport from one place to another.
- 386** Wherein power from the draft-animals may be used to dump or to assist in dumping the rake.
- 387** Wherein the draft-power is directly applied to dumping the rake, that is, without the medium of the supporting-wheels.
- 388** Wherein the power for dumping the rake is applied through a frictional connection with the supporting-wheels.
- 389** Comprising spur gear-wheels which are brought into mesh to lock the rake to the supporting-wheels to dump it.
- 390** Comprising a sliding member which locks the rake to the supporting-wheels to dump it.
- 391** Comprising a pawl and ratchet which are engaged to lock the rake to the supporting-wheels to dump it.
- 392** The pawl being fixed to or integral with a transverse rod which is rocked to cause the pawl to engage the ratchet.
- 393** Wherein a backward pull on a hand-lever raises the rake-teeth to dump the load.
- 394** Wherein a hand-lever is mounted to swing forwardly on the same axis as the rake-head to dump the load.

395 Having mechanism for clearing the hay or straw from the teeth.

- (1) Note. For hand rakes provided with clearing means, see this class, subclasses 400.08+.

396 Wherein the rake is supported by ground-wheels.

SEE OR SEARCH THIS CLASS, SUB-CLASS:
400.09, 400.13, 400.14, and 400.15, for hand rakes provided with ground wheels.

397 Having means for lifting the loaded rake clear of the ground, so that the load may be more easily transported.

398 Wherein power from the draft-animals is used for lifting the loaded rake.

399 Attachments for horse-rakes for preventing escape of the material from the sides of the rake or to prevent it from becoming entangled with the operating mechanism.

400 Structure of the teeth, per se, or of the means for fastening them to the rake-head.

- (1) Note. For structure of the teeth, per se, of hand rakes, see this class, subclass 400.21.

SEE OR SEARCH CLASS:

172, Earth Working, subclasses 705+ for a spring biased or formed earth working tool, and subclass 713 for an earth working tooth.

400.01 Rakes designed to be manipulated by hand.

- (1) Note. Compare with this class, subclasses 163 and 180.
- (2) Note. For horse-type rakes, see this class, subclasses 375+.
- (3) Note. For blanks and processes for making rakes, see Class 76, Metal Tools and Implements, Making, subclass 111.

- (4) Note. For rake handle connections, per se, Class 403, Joints and Connections, appropriate subclasses.

- (5) Note. For hand held earth working tools see Class 172, Earth Working, subclasses 371+.

SEE OR SEARCH CLASS:

294, Handling: Hand and Hoist-Line Implements, subclass 55.5 for hand forks, and subclasses 120+ for hay forks and see the searches there noted.

400.02 This subclass is indented under subclass 400.01. Rakes wherein the tines or teeth are mounted upon a rotary or endless member.

- (1) Note. For rotary horse type rakes, see this class, subclasses 377 and 379+.
- (2) Note. For brushes with analogous mountings, etc., see Class 15, Brushing, Scrubbing, and General Cleaning, subclasses 78+.
- (3) Note. For endless conveyors provided with tines, see Class 198, Conveyors: Power-Driven, subclasses 520, 692, and 725+.

400.03 This subclass is indented under subclass 400.02. Rakes wherein the teeth are peculiarly adapted to impale leaves and the like in their movement. These devices usually are provided with a material receiver and a means to clear the impaled material from the teeth into the receiver.

400.04 This subclass is indented under subclass 400.01. Rakes convertible into tools for other purposes or combined with other tools and not provided for elsewhere. Attachments specifically adapted for connection to a rake are also here included where not provided for elsewhere.

- (1) Note. For hand forks combined with rakes, see Class 294, Handling: Hand and Hoist-Line Implements, subclass 52.

400.05 This subclass is indented under subclass 400.04. Combinations of rake and cutter, scraper or spreader. The cutting edge may be formed integral with one or more of the rake tines.

- (1) Note. Compare with this class, subclass 193.

400.06 This subclass is indented under subclass 400.05. Combinations wherein the cutter and rake are so mounted upon a common handle that their working edges are directed substantially in opposite directions.

400.07 This subclass is indented under subclass 400.05. Combinations wherein the cutter and rake are mounted with their working edges extending in the same general direction so that they may perform work simultaneously during a stroke of the tool.

400.08 This subclass is indented under subclass 400.04. Combinations of rake and means operable to remove material from the rake teeth.

- (1) Note. For horse type rakes with clearers, see this class, subclass 395.
- (2) Note. For impaling type rakes with cleaners, see this class, subclass 400.03.
- (3) Note. For forks with ejectors or strippers, see Class 30, Cutlery, subclass 129.
- (4) Note. For hand forks equipped with clearing means, see Class 294, Handling: Hand and Hoist-Line Implements, subclass 50.

SEE OR SEARCH CLASS:

- 132, Toilet, subclass 119 for toilet comb attached to comb cleaners, and subclass 27 for other toilet comb cleaners involving structure other than a brush.
- 171, Unearthing Plants or Buried Objects, subclass 12, 52, 89, and 90 for moving soil working and buried object recovering rakes provided with intercepting rake teeth stripper-type cleaners.

400.09 This subclass is indented under subclass 400.08. Combinations provided with means to support the rake upon the ground for movement thereover. The ground support may be carried by the cleaner.

- (1) Note. For other ground supported hand rakes, see this class, subclasses 400.13, 400.14 and 400.15.

400.1 This subclass is indented under subclass 400.08. Combinations having means operable by hand or foot for actuating the rake cleaning means.

- (1) Note. Mere inertia operators which function by turning the rake over or striking it upon the ground are in this class, subclasses 400.08 and 400.09.
- (2) Note. For pivoted heads or tines, see this class, subclasses 400.19 and 400.2.

400.11 This subclass is indented under subclass 400.04. Combinations of rake and means (1) to receive the raked material or (2) to prevent or guard against spillage of material from the rake.

- (1) Note. Additional braces provided between the handle and head of a rake have been considered as guards for purposes of this classification.
- (2) Note. Search this class, subclasses 400.02 and 400.03 for rotary or endless rakes combined with material receivers.
- (3) Note. For cleaners and actuating means therefor which may incidentally form guards or receivers, see this class, subclasses 400.08+.
- (4) Note. Compare with this class, subclass 400.16.
- (5) Note. For fork or rake type scoops, see Class 37, Excavating, subclasses 316 and 405.

400.12 This subclass is indented under subclass 400.11. Combinations wherein the guard or receiver comprises means which coact with the tines or teeth to grip the raked material.

- (1) Note. For grapples in general, see Class 294, Handling: Hand and Hoist-Line Implements, appropriate subclasses.

400.13 This subclass is indented under subclass 400.11. Rake combinations provided with means to support the rake upon the ground for movement thereover.

- (1) Note. For other hand rakes having ground supports, search this class, subclasses 400.09, 400.14 and 400.15

400.14 This subclass is indented under subclass 400.04. Combinations of rake and means to support the rake upon the ground for movement thereover.

- (1) Note. Search also this class, subclasses 400.09 and 400.13.
- (2) Note. For ground supported rakes of the rotary or endless type, see this class, subclasses 400.02 and 400.03.
- (3) Note. For wheel supported horse type rakes, see this class, subclasses 380, 384, and 396 and their indented subclasses.

400.15 This subclass is indented under subclass 400.14. Combinations wherein the ground support is of the skid or runner type.

400.16 This subclass is indented under subclass 400.01. Rakes provided with more than one set of tines which may be used simultaneously or alternatively.

- (1) Note. For rakes with sectional heads mounted so as to be movable with respect to each other, see this class, subclasses 400.19 and 400.2.

400.17 This subclass is indented under subclass 400.01. Rakes peculiarly adapted to be used in the manner of a broom. The handle and time fastenings for this type of rake are also classified here.

- (1) Note. Compare with this class, subclasses 400.11+.

- (2) Note. For brooms in general, see Class 15, Brushing, Scrubbing, and General Cleaning, appropriate subclasses, particularly subclasses 159.1+.

400.18 This subclass is indented under subclass 400.17. Broom type rakes having means whereby the parts are adjusted, usually to fan out or vary the spacing of the tines.

- (1) Note. For adjustable or folding rakes of other types, see this class, subclass 400.19.
- (2) Note. For adjustable fork or shovel heads, see Class 294, Handling: Hand and Hoist-Line Implements, subclass 53.5 and the search Notes appended thereto.

400.19 This subclass is indented under subclass 400.01. Rakes so constructed that (1) they may be collapsed or folded or (2) the parts may be adjusted with respect to each other.

- (1) Note. For hand rakes provided with ground supports and means to adjust the distance between the teeth and the ground, see this class, subclasses 400.09, 400.13, 400.14, and 400.15.
- (2) Note. For adjustable broom type rakes, see this class, subclass 400.18.
- (3) Note. For rakes having means adjustable with respect thereto to grapple the raked material, see this class, subclass 400.12.
- (4) Note. For rakes having means adjustable to clean the rake teeth, see this class, subclasses 400.08+.

400.2 This subclass is indented under subclass 400.19. Rakes wherein the head or tines are pivotally mounted to yield in one direction against the action of a biasing means. This construction is usually for the purpose of assisting cleaning or to avoid breakage.

- 400.21** This subclass is indented under subclass 400.01. Improvements in the rake tines or teeth, per se.
- (1) Note. For teeth of the type which provide plural sets of tines, see this class, subclass 400.16.
 - (2) Note. For tines or teeth for horse type rakes, see this class, subclass 400.
 - (3) Note. For teeth for broom type hand rakes, see this class, subclasses 400.17 and 400.18.
- 401** Devices for forming sheaves, gavels, or loose stalks into large bundles or shocks, with the butts all pointing in the same direction, and positioning the same in upright position, with the butts on the ground.
- SEE OR SEARCH CLASS:
100, Presses, subclasses 1+ for compressing and binding material, and appropriate subclasses for compressing, not elsewhere provided for.
- 402** Having means for receiving sheaves or gavels directly from the harvesting mechanism and transferring to the shock-former without manual assistance.
- 403** Having means for automatically binding the sheaves or gavels together in the shock.
- 404** Wherein the sheaves or gavels stand on their butts in substantially vertical position while being formed into a shock.
- 405** Wherein the shock binding and delivery mechanism is normally tripped without assistance.
- 406** Having an oscillating member which receives sheaves as they are discharged from the sheaf-binding mechanism and delivers them to the shock-former.
- 407** Wherein each sheaf in passing from the sheaf-binder to the shocker is turned end for end, so that the butts point toward the rear.
- 408** Wherein the shock is tilted forwardly from a reclining position to an upright position on the ground.
- 409** Wherein the shock binding and delivery mechanism is normally tripped without manual assistance.
- 410** Wherein the sheaves or gavels stand on their butts in substantially vertical position while being formed into a shock.
- 411** Wherein the shock is rotated on its vertical axis as sheaves are successively placed thereon.
- 412** Wherein the shock-delivery mechanism is normally tripped without manual assistance.
- 413** Having an oscillating member which receives sheaves as they are discharged from the binding mechanism and delivers them to the shock-former.
- 414** Wherein the shock-delivery mechanism is normally tripped without manual assistance.
- 415** Having a sheaf-delivery member which receives sheaves as they are discharged from the binder and delivers them alternately to either side of the shock-former, the latter usually having a central partition.
- 416** Having a sheaf-delivery member which receives sheaves as they are discharged from the binder and delivers them alternately to either side of the shock-former, the latter usually having a central partition.
- 417** Wherein each sheaf in passing from the sheaf-binder to the shocker is turned end for end, so that the butts point toward the rear.
- 418** Wherein the shock-delivery mechanism is normally tripped without manual assistance.
- 419** Wherein the shock is tilted forwardly from a reclining position to an upright position on the ground.
- 420** Wherein the shock-delivery mechanism is normally tripped without manual assistance.

- 421** Wherein the shock-delivery mechanism is normally tripped when a predetermined number of sheaves has been delivered to the shock-former.
- 422** Wherein the feeding of sheaves to the shocker is automatically discontinued while the shock is being discharged.
- 423** Wherein after the shock-former is swung to upright position to set the shock on the ground the rear side opens to allow the machine to pass on without disturbing the shock.
- 424** Wherein after the shock is formed it is turned end for end, so as to bring the butts to the rear before it is discharged from the machine.
- 425** Wherein the stalks stand on their butts in substantially vertical position while being formed into a shock.
- 426** Wherein the shock is rotated on its vertical axis as sheaves or gavels are successively placed thereon.
- 427** Wherein when the shock is formed it is allowed to drop directly to the ground.
- 428** Having means in the shock-former to divide the butts of the stalks, leaving an air-space through the central part of the base of the shock.
- 429** Having means for automatically binding the sheaves or gavels together in the shock, no feed mechanism being shown.
- 430** Having means for pressing the stalks or sheaves together into a compact shock, in combination with means for setting the shock on the ground.
- SEE OR SEARCH CLASS:
100, Presses, subclasses 1+ for compressing and binding material, and appropriate subclasses for compressing, not elsewhere provided for.
- 431** Means against which the stalks or sheaves rest while a shock is being formed directly on the ground.
- (1) Note. See Class 211, Supports: Racks, subclass 29 for racks which support shocks of grain ordinarily in the field.
- 432** Means mounted on a harvester and operatively connected therewith for forming compact bundles of stalks and binding them as the harvester travels through the field.
- SEE OR SEARCH CLASS:
100, Presses, subclasses 1+ for binder applying methods and apparatus, not elsewhere classifiable.
- 433** Wherein a band is passed around the bundle and the ends of the band knotted together.
- SEE OR SEARCH CLASS:
289, Knots and Knot Tying, appropriate subclasses, for inventions in the knotting mechanism, per se.
- 434** Comprising means for adjusting the binding mechanism longitudinally to adapt it to grain of different lengths.
- 435** Wherein the invention includes details of the knoter, in combination with means for forming the bundle.
- 436** Wherein the pressure of the grain trips the mechanism which carries the cord around the bundle.
- SEE OR SEARCH CLASS:
100, Presses, subclass 4 for binder applying apparatus, not otherwise provided for, and including automatic or material triggered control.
- 437** Wherein the trip is actuated through the medium of an abutting arm which projects up through the deck and against which the grain is packed.
- 438** Wherein the invention includes the means for packing the grain preparatory to the binding operation.
- 439** Wherein the invention includes details of the knoter, in combination with means for forming the bundle.

- 440** Wherein the invention includes the means for packing the grain preparatory to the binding operation.
- 441** Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 442** Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 443** Wherein the invention includes the means for packing the grain preparatory to the binding operation.
- 444** Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 445** Wherein the invention includes details of the knotter, in combination with means for forming the bundle.
- 446** The invention residing wholly in the means for packing the grain into a bundle preparatory to passing the cord around it.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
185, and 471.
- 447** Having means for tripping the binding mechanism into action manually in addition to automatic tripping means.
- 448** Devices for cleaning straw from the needle or binder-arm or for preventing the straw from becoming entangled with it.
- 449** Devices for facilitating the discharge of the bound bundle from the binding mechanism.
- SEE OR SEARCH CLASS:
100, Presses, subclass 17 for binder applying apparatus, not otherwise provided for, and including material depositing or discharging means.
- 450** Devices, in combination with the bundle forming or binding mechanism, for tensioning the cord with which the bundle is bound or for taking up the slack in the cord.
- SEE OR SEARCH CLASS:
100, Presses, subclass 32 for apparatus, not otherwise provided for, by which a binder which is encircling material is tensioned to increase its tightness about the material.
- 242, Winding, Tensioning, or Guiding, subclasses 410+, for tension or take-up devices of general application.
- 451** Wherein the bundle is encircled by wire or the like and the ends of the wire twisted together.
- SEE OR SEARCH CLASS:
100, Presses, subclass 31 for apparatus, not otherwise provided for, for tensioning a binder about material by intertwisting the local spaced portions of the binder, such twisting being employed for joining the binder portions together.
- 140, Wireworking, subclass 93.
- 452** Wherein only one wire is used.
- 453** Wherein a curved arm carries the wire around the bundle.
- SEE OR SEARCH CLASS:
100, Presses, subclasses 19+ for binder applying apparatus, not otherwise provided for, and including threader means crossing a path along which material moves for carrying the binder around the material.
- 454** Wherein the binder-arm is mounted to one side of the path of the grain which is being delivered to the bundle-forming mechanism.
- 455** Wherein the binder-arm has a forked end, which carries the wire into the binder-head.
- 456** Wherein the twister element is carried on the end of the binder-arm.
- 457** Wherein the invention is limited to the twisting element, per se.
- SEE OR SEARCH CLASS:
140, Wireworking, subclass 115.

- 458** Wherein the ends of the band which encircles the bundle are twisted together and subsequently tucked into the bundle or under the band to prevent them from slipping apart.
- 459** Wherein the band is of straw.
- 460** Comprising means for forming the band from straw in combination with means for applying the band to the bundle.
- 461** Wherein the bundle is rotated while the band is placed in position around the same.
- 462** Wherein the invention resides in the band-forming mechanism, per se.
- (1) Note. For machines and processes for forming twisted or spirally wrapped strands of hair, grass and the like, see Class 57, Textiles: Spinning, Twisting, and Twining, subclasses 4, 28, 29, 30, and 362+.
- 463** Wherein a band previously prepared and cut is used to bind the bundle.
- 464** Wherein a cord band is used, the ends of which are clamped together by a clip.
- SEE OR SEARCH CLASS:
- 29, Metal Working, subclasses 505+ for a process including deformably applying a band around work, and subclasses 33.5+ and 243.57+ for means for doing the same.
- 100, Presses, subclass 30 for apparatus, not otherwise provided for, by which a binder is tightened around material and portions of the binder secured together by the deformation of a sleeve or clamp element.
- 140, Wireworking, subclass 93.
- 465** Wherein the band is formed from a strip of flat metal.
- 466** Devices for adjusting and maintaining the stalks in parallel relation, with even butts, preparatory to binding them into a bundle.
- 467** Wherein the adjusting mechanism acts on the grain as it is passing down the deck, where it is bound.
- 468** Wherein the adjuster acts directly against the heads or butts of the grain to even them.
- 469** Comprising an oscillating member with a flat surface, which strikes against the ends of the stalks as the member oscillates.
- 470** Comprising an endless apron which travels in the same general direction as the grain, while its flat surface bears against the ends of the stalks.
- 471** Comprising devices for urging the grain toward the binder and arranging it with the stalks perpendicular to the plane of the binder-arm.
- 472** Comprising devices for retarding the grain and preventing one end of the stalks from sliding down the deck ahead of the other.
- 473** Comprising a finger which moves longitudinally of the stalks to comb or straighten out any grain which may be in tangled condition.
- 473.5** This subclass is indented under the class definition. Devices comprising a storage type receiver mounted on a harvesting machine or partially supported at the side of such machine by a mobile support in proper position for receiving harvested crop from the harvester as it travels over the ground.
- (1) Note. This subclass is directed primarily to a specific subcombination of a harvesting machine and should include the harvester by name only. Patents claiming structural features of the harvester are classified on the basis of such structural features.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 202+, for catchers attached to a cutter bar.
- 344+, for catchers combined with continuously gathering means.
- SEE OR SEARCH CLASS:
- 280, Land Vehicles, subclasses 400+ for articulated vehicles in which a drawn

vehicle may track at the side or rear of a drawing vehicle. Trailing vehicles in the vehicle subclasses are, for the most part, adaptable for use with any drawing vehicle, and are not designed for use with a specific type machine. See particularly subclasses 411.1+ for multiple tractor-towed vehicles which by disclosure may be a harvester and receiver or wagon.

- 414, Material or Article Handling, subclasses 334+ for a moving, wheeled, load-transporting type vehicle and a loading or unloading device therefor, which device is supported at least in part independently of the vehicle and travels with the vehicle during the transfer of a load from the device to the vehicle or vice versa.

474 This subclass is indented under the class definition. Devices comprising means attached to a binder or baler traveling over a field for receiving a sheaf, bundle or bale from said binder or baler and handling the sheaf, bundle or bale to deposit it on the field.

- (1) Note. A single sheaf, bundle or bale may be deposited on the field at one time or a group of sheaves, bundles or bales may be collected for depositing on the field at the same time.
- (2) Note. The handling device attached to the binder or baler may be of a trailing vehicle type.
- (3) Note. This subclass comprises an art collection. The binder or baler should be claimed by name only or without any detail of the binding or baling mechanism.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 67+, for corn stalk cutters with means for binding cut stalks.
- 120, for devices attached to corn harvesters for loading corn stalks bundles onto a vehicle.
- 121, for devices attached to corn harvesters for carrying bundles of corn stalks.
- 131+, for devices for cutting, conveying and binding grain or the like.

- 341+, for devices for raking and bundling hay or straw.

- 401+, for shocking devices. 432+, for devices mounted on a harvester for binding stalks. 473.5, for storage type receivers attached to a harvester for receiving crops from the harvester.

SEE OR SEARCH CLASS:

- 100, Presses, appropriate subclasses for binder or baler structure combined with means for depositing sheaves, bundles or bales on the ground.
- 193, Conveyors, Chutes, Skids, Guides, and Ways, appropriate subclasses, especially subclasses 4+ for sheaf, bundle or bale depositing devices comprising no more than a mere trough chute or guideway for depositing sheaves, bundles or bales on the ground.
- 198, Conveyors: Power-Driven, for power-driven devices for moving sheaves, bales or bundles along a path; see subclasses 717+ for a conveyor having means for changing the attitude of the conveyed load relative to the conveying direction.
- 414, Material or Article Handling, subclass 789.7 for discharging from a vehicle-carried bale accumulator, subclass 111 for a vehicle-carried bale accumulator, and subclasses 334+ as explained in subclass 473.5 for this class (56).

475 This subclass is indented under subclass 474. Devices having means to trip automatically the mechanism for discharging the sheaf, bundle or bale.

476 This subclass is indented under subclass 475. Devices wherein the carrier swings about a fixed horizontal axis to discharge the sheaf, bundle or bale.

477 This subclass is indented under subclass 474. Devices wherein the sheaf, bundle or bale rests on an endless carrier which is normally motionless, but may be thrown into gear to discharge the sheaf, bundle or bale.

478 This subclass is indented under subclass 474. Devices having a series of tines which normally project transversely to the line of travel, but may be folded about approximately vertical axes to discharge the sheaf, bundle or bale.

479 This subclass is indented under subclass 474. Devices having a receptacle with a bottom which is opened to discharge the sheaf, bundle or bale.

480 This subclass is indented under subclass 474. Device wherein the carrier swings about a fixed horizontal axis to discharge the sheaf, bundle or bale.

500 This subclass is indented under the class definition. Devices in which a means is provided for cutting dead crop material into a plurality of small pieces.

- (1) Note. This definition includes devices for chopping up leaves, brush, plant stalks and stubble. While the stalks are generally broken down or already severed from their roots and lying on the ground, they may be stalks which are still standing but from which the ears or the like have been picked.

SEE OR SEARCH CLASS:

- 172, Earth Working, especially subclasses 35+ and 518+ for stalk choppers which chop the stalks into small pieces by shearing the same between a cutting member and the earth's surface. Generally the cutting member is a blade on a drum which rolls or is driven along the ground in such fashion that the ground acts as a back up means against which the cutter member bears as it shears through the stalks, the ground surface being at the same time either intentionally or merely incidentally stirred or agitated.

501 This subclass is indented under subclass 500. Devices in which there are means for causing a current of air to gather or feed crop material to the means for cutting the same into a plurality of small pieces.

502 This subclass is indented under subclass 500. Devices in which a separate gatherer is provided for picking up the crop material which is to be cut into a plurality of small pieces by the crop cutting means and said gatherer is driven so as to have a regular cyclical motion with respect to its mounting frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 1, for devices for picking up hay and chopping the same into small pieces for subsequent delivery to a truck, storage bin or like receptacle.

503 This subclass is indented under subclass 500. Devices in which the crop cutting means rotates about an axis which is perpendicularly disposed relative to the ground.

504 This subclass is indented under subclass 500. Devices in which the crop cutting means rotates about an axis which is perpendicular to the line of draft and which lies in a plane which is parallel to the ground.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 501, and 502, for the combination of air current or driven stalk gathering or pick up means with stalk chopping means, which latter means is generally disposed to rotate about a horizontal transverse axis.
- 505, Devices under subclass 504 in which a fixed, elongated, transversely disposed blade or plate is so associated with the rotary crop cutting means that during rotation of the latter the crop material will be sheared off between the blade or plate and a cooperating shearing surface or element of the rotary cutting means.

END